

**WASHINGTON DEPARTMENT OF ECOLOGY**  
**ENVIRONMENTAL ASSESSMENT PROGRAM**  
**FRESHWATER MONITORING UNIT**  
**STREAM DISCHARGE TECHNICAL NOTES**

**STATION ID:** 35H050  
**STATION NAME:** Couse Creek  
**WATER YEAR:** 2013  
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**Introduction**

Watershed Description

Couse Creek is located in Asotin County in southeastern Washington. The creek cuts through a deep canyon on its way to the Snake River. The plateaus above Couse Creek are farmed for wheat and barley, and the canyon is used for range and feeding livestock.

Gage Location

The Couse Creek gage is located at the Snake River Road Bridge crossing, approximately 12 miles south of Asotin, Washington.

Table 1. Basin Area and Legal Description

Drainage Area (square miles)	24 (Streamstats)
Latitude (degrees, minutes, seconds)	46° 12' 17" N
Longitude (degrees, minutes, seconds)	116° 58' 00" W

Table 2. Discharge Statistics.

Mean Annual Discharge (cfs)	1.0
Median Annual Discharge (cfs)	0.9
Maximum Daily Mean Discharge (cfs)	3.6
Minimum Daily Mean Discharge (cfs)	0.6
Maximum Instantaneous Discharge (cfs)	4.9
Minimum Instantaneous Discharge (cfs)	0.50
Discharge Equaled or Exceeded 10 % of Recorded Time (cfs)	1.80
Discharge Equaled or Exceeded 90 % of Recorded Time (cfs)	0.57
Number of Days Discharge is Greater Than Range of Ratings	7
Number of Days Discharge is Less Than Range of Ratings	28
Number of Un-Reported Days	120
Number of Days Qualified as Estimates	32
Number of Modeled Days	0

Note: Statistics displayed in Table 2 may not include values in which the predicted discharge exceeds the range of ratings.

#### Table 2 Discussion (Discharge Statistics)

The missing days are attributed to the removal of the pressure transducer for the winter months.

The estimated days were a result of logger drift. Data is qualified as an estimate if the mean daily flow difference between corrected and uncorrected data is greater than 20% and greater than 0.50 cfs.

Table 3. Error Analysis Summary.

Potential Logger Drift Error (% of discharge)	22.9
Potential Weighted Rating Error (% of discharge)	16.0
Total Potential Error (% of discharge)	38.9

Table 3 Discussion (Error Analysis)

The high potential logger drift error is a result of the mean daily flow difference between corrected and uncorrected data being large. This difference was caused by extremely low flows causing very shallow water depths at the location of the pressure transducer.

Table 4. Stage Record Summary

Minimum Recorded Stage (feet)	4.56
Maximum Recorded Stage (feet)	5.04
Range of Recorded Stage (feet)	0.48

Table 4 Discussion (Stage Record)

No continuous stage data was collected between November 15, 2012, and March 6, 2013. The pressure transducer was removed for winter.

Table 5. Rating Table Summary

Rating Table No.	18	19	181
Period of Ratings	10/1/12 to 11/15/12	10/2/12 to 1/9/13	11/15/12 to 2/21/13
Range of Ratings (cfs)	0.35 to 24	0.56 to 2.2	0.35 to 24
No. of Defining Measurements	4	1	4
Rating Error (%)	18.4	10.8	18.4

Rating Table No.	20	171	201
Period of Ratings	1/9/13 to 3/4/13	2/21/13 to 4/10/13	3/6/13 to 5/22/13
Range of Ratings (cfs)	0.60 to 2.7	0.70 to 24	0.60 to 2.7
No. of Defining Measurements	2	3	2
Rating Error (%)	16.1	15.4	16.1

Rating Table No.	21		
Period of Ratings	4/10/13 to 10/1/13		
Range of Ratings (cfs)	0.27 to 24		
No. of Defining Measurements	5		
Rating Error (%)	17.0		

Table 5 Discussion (Rating Tables)

The first two ratings of the year were caused by leaf litter build-up, then the subsequent flushing of the leaf litter. The channel then went through a pattern of fine sediment movement, with both fill and scour characteristics.

Ten discharge measurements were taken throughout the water year, ranging from 0.54 to 2.1 cfs.

Table 6. Model Summary

Model Type (Slope conveyance, other, none)	n/a
Range of Modeled Stage (feet)	n/a
Range of Modeled Discharge (cfs)	n/a
Valid Period for Model	n/a
Model Confidence	n/a

Table 6 Discussion (Modeled Data)

A high flow model was not developed for this station. There were not enough discharge measurements available under channel control to accurately develop a model.

Table 7. Survey Type and Date (station, cross section, longitudinal)

Type	Date
n/a	n/a

Table 7 Discussion (Surveys)

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Activities Completed

Monitoring at this station was discontinued on October 1, 2013, due to budget cuts.
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